WHAT IS CLAIMED:

1. A method of forming a thinned-wall PTFE tube comprising the steps of:

providing a PTFE tube having an inner tubular wall surface and opposed outer tubular wall surface defining a tubular wall of a first wall thickness; and

compressing said tubular wall to reduce said tubular wall first thickness to a lesser second thickness, and circumferentially orient said PTFE tube.

2. A method of claim 1 wherein said compressing step includes:

positioning said PTFE tube over a first elongate luminal roller having a first surface with said inner tubular surface in contact therewith;

engaging a second surface against said outer tubular surface of said PTFE tube; and

effecting rotation of said first surface relative to said second surface to circumferentially compress said tubular wall therebetween.

3. A method of claim 2 wherein said second surface is defined by a second elongate roller.

4. A method of claim 3 wherein said step of positioning said second elongate roller includes moving said second roller toward said first roller to effect compression of said tubular wall therebetween.

5. A method of claim 3 wherein said step of effecting relative rotation of said rollers includes rotating one of said rollers in a first rotational direction.

6. A method of claim 3 wherein said step of effecting said relative rotation of said rollers includes rotating one of said first and second rollers in a first rotational direction and simultaneously rotating the other of said first and second rollers in a second rotational direction opposite said first rotational direction providing mutual counter rotation.

7. A method of claim 3 wherein said PTFE positioning step further includes positioning said PTFE tube over said first luminal roller and over a tensioning roller, said tensioning roller being moveable away from said first luminal roller to maintain said PTFE tube in outward radial tension.

8. A method of claim 3 wherein said PTFE positioning step further includes positioning said PTFE tube over said first luminal roller and over a pair of tensioning rollers, said pair of tensioning rollers being positioned about opposite extents of said first roller, said pair of tensioning rollers being oppositely moveable away from said first roller to maintain said tube in outward radial tension.

9. A method of claim 3 wherein said first luminal roller is stationary.

10. A method of claim 9 wherein said stationary roller includes a carbide outer surface for contact with said inner tubular surface of said tube.

11. A method of claim 2 wherein said effecting step is achieved in a water bath.

12. A product formed by the process of claim 1.

13. A method of claim 2 wherein said second surface includes an inner circumferential wall of a substantially hollow cylinder.

14. A method of claim 13 wherein said luminal roller is eccentrically positioned interior to said hollow cylinder.

15. A method of claim 14 wherein said elongate roller is rotated about said inner circumferential wall of said hollow cylinder compressibly rotating said PTFE tube

16. A method of claim 13 wherein said luminal roller is fixed about a rotational axis, said hollow roller being fixed about a rotational axis.

17. A product formed by the process of claim 13.

18. A method of claim 1 further comprising the step of increasing the diameter of said tube.

19. A method of claim 2 wherein said second surface is a substantially flat surface and wherein said engaging step includes positioning said substantially flat surface adjacent to said luminal roller to place said wall in compression therebetween.

20. A method of claim 19 wherein said substantially flat surface is movably positioned relative to said first luminal roller.

21. A method of claim 19 further including the step of providing a second substantially flat surface substantially parallel to first said substantially flat surface and positioned substantially opposite first said substantially flat surface.

22. A method of forming a thin wall expanded polytetrafluoroethylene (ePTFE) prosthetic tube comprising the steps of:

forming a PTFE green tube having a tubular wall of a given wall thickness;

positioning said PTFE green tube over an inner mandrel;

positioning an outer mandrel against said inner mandrel with said tubular wall therebetween;

effecting counter rotation of said inner mandrel and said outer mandrel to circumferentially compress said tubular wall therebetween so as to reduce said given wall thickness of said PTFE green tube; and

expanding said reduced wall-thickness green PTFE tube to form said thinned-wall ePTFE tube.

23. A method of claim 22 further comprising the step of expanding said reduced wall-thickness green PTFE tube to form said thinned-wall ePTFE tube

24. A method of claim 23 wherein said extruding step includes extruding said PTFE green tube from a PTFE paste including a lubricant.

25. A method of claim 24 further including the step of drying said reduced wall PTFE green tube to remove said lubricant.

26. A method of claim 25 wherein said expanding step includes uniaxially heat expanding said reduced-wall thickness PTFE green tube.

27. A method of claim 26 further including the step of sintering said expanded reduced wall-thickness PTFE green tube.

28. An apparatus for reducing the thickness of the wall of a polymer tube comprising:

an inner luminal roller having an outer surface for supporting said tube thereabout;

an outer surface relatively movably positioned with respect to said inner roller to place said wall in compression therebetween; and

means for relatively rotating said inner roller and outer surface to effect circumferential reduction in said thickness of said wall therebetween.

29. An apparatus of claim 28 further including a supporting device for supporting said outer roller and wherein said inner roller is movably positioned with respect to said outer roller for movement into compressive engagement therewith.

30. An apparatus of claim 29 further including a warm water bath supporting said inner and outer rollers.

31. An apparatus of claim 29 further including a tensioning roller for supporting said tube thereabout, said tensioning roller being spring biased away from said inner roller for maintaining an outward radial tension on said tube.

32. An apparatus of claim 29 further including a pair of tensioning rollers supported thereabout, said pair of tensioning rollers being oppositely spring biased away from said inner roller for maintaining an outward radial tension on said tube.

33. A method of forming a thin wall polymer tube comprising the steps of:

providing a polymer tube having a tubular wall of a given wall thickness;

positioning said tube over a luminal mandrel;

positioning said luminal mandrel against a smooth surface with said tubular wall therebetween; and

effecting rotation of said inner mandrel against and said smooth surface to circumferentially compress said tubular wall therebetween so as to reduce said given wall thickness of said tube.